

### FEATURES

- Data modem line speeds of 33.6kbps
  - V.32bis, V.32, V.22bis, V.22A/B, V.23 & V.21
  - Bell 212A and Bell 103
  - V.34 and V.FC (PCM-33.6M only)
- ECC support:
  - V.42 LAPM and MNP 2 - 4 error correction
  - V.42bis and MNP 5 data compression
  - MNP 10 data throughput enhancement
- Communication software compatible with AT Command sets
- FAX modem send and receive rates up to 14.4kbps: V.33, V.17, V.29, V.27ter, and V.21 channel 2
- NVRAM directory and stored profiles
- Auto answer/auto dial
- Tone and pulse dialing
- FCC Part 68 Registered onboard DAA
- Parallel interface mapped as COM1, 2, 3 or 4
- Small size: 3.6" x 3.8"
- 16-bit PC/104 module
- +5 volt only operation

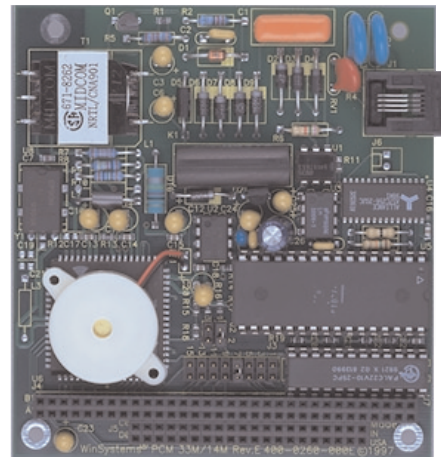
WinSystems' PC/104 Bus Fax/Modem module is designed to directly connect to dial-up telephone lines. It supports data rates up to 33600 bps with effective data modem throughput up to 115.2 kbps with MNP error correction and compression. The modem supports Fax Group 3 send and receive rates up to 14400 bps and supports T.30 protocol.

Fully compatible with the industry standard AT Command Set, the modem provides access to a vast range of existing PC communication software.

**PC/104 Bus Interface** - The PCM-33.6M is a 16-bit PC/104 stackthrough card with a I/O port mapped interface. A total of 8 contiguous addresses are required in the I/O map. It can be jumpered to the locations of COM1 through COM4. The data path to the module is 8-bits.

The Fax/modem interface is a 16C550A compatible UART with a 16 byte Tx/Rx FIFO. It provides the parallel to serial interface between the bus and modem section. It will work with 7- or 8-bit characters and will handle 1 or 2 stop bits, even, odd, or no parity, false start bit detection and automatic break detection.

**Data/Fax Modes** - In data modem modes, the modem can operate in 2-wire, full duplex, asynchronous modes at line rates up to 33600. Data modem modes perform complete handshake and data rate negotiations. All tone and pattern detection functions required by the applica-



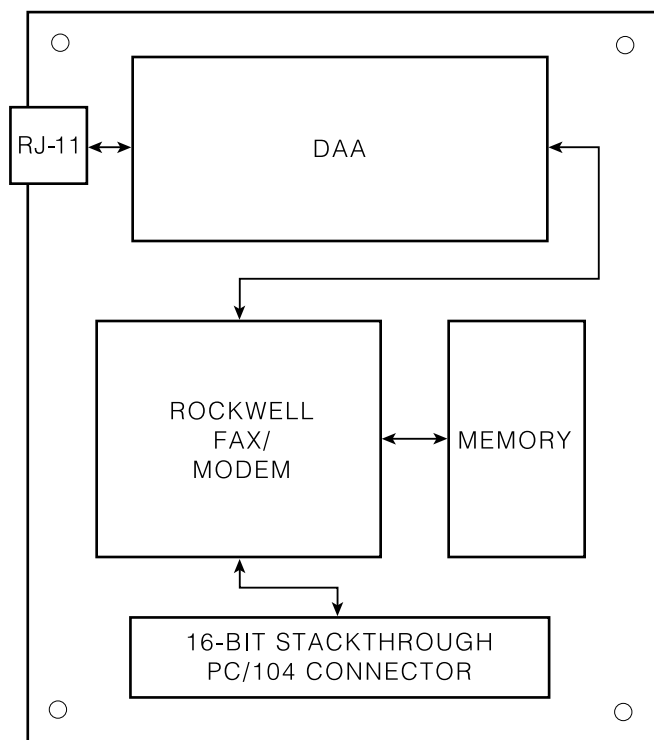
ble ITU or Bell standard are supported. The PCM-33.6M modem connects the channel at the highest data rate of 33600 bps. However the modem's data rate will fall-back from 33600 to 300 bps in order to determine the optimal rate required to achieve the best line conditions for communications.

In Fax modem modes, the PCM-33.6M module fully supports Group 3 facsimile send and receive speeds of 14400, 12000, 9600, 7200, 4800, and 2400 bps. Fax modem modes support Group 3 fax requirements. Fax data transmission and reception performed by the modem is controlled and monitored through the fax EIA-578 Class 1 command interface. Full HDLC formatting, zero insertion/deletion and CRC generation/checking is provided.

**Interrupts** - Interrupts can be individually enabled by software for any or all of the following conditions: Received Data Available, Transmitter Holding Register Empty, Receiver Line Status and Modem Status. An interrupt request can be jumper selected to one of the PC/104 interrupt INTRQ 2 - 7 or 10 - 14 lines.

**Telephone Line Interface** - The connection to the phone line is through a RJ-11C jack. An onboard FCC Part 68 registered DAA provides the required isolation and protection for connection to dial-up lines.

**Non-volatile RAM** - A 256 x 8 NVRAM is on the board which allows storage of two user configurations and four 35-digit speed-dial strings. Data stored in NVRAM can take precedence over the factory default settings.



**PCM-33.6 BLOCK DIAGRAM**

**Auto Dialing** - Both pulse and tone dialing are supported. DTMF dialing using DTMF tone pairs is supported in accordance with ITU-T Q.23. Pulse dialing is supported in accordance with EIA/TIA-496-A. If a tone is not detected within the time specified in the S7 register after the last digit is dialed, the modem aborts the call attempt. Ringback, equipment busy, and progress tones can be detected in accordance with the applicable standard.

**Auto Answer** - When an incoming ring is detected, the board goes Off-Hook and returns an answer tone to the remote caller. If a carrier is not detected, it terminates the call and goes On-Hook.

**Software** - The PCM-33.6M supports the enhanced "AT" command set and is compatible with many PC communications software packages. The firmware also supports fax Class 1 commands.

**Self Test** - The board provides analog loopback, digital loopback, and remote digital loopback functions for testing purposes.

**Speaker** - An onboard piezo transducer allows audible monitoring of the telephone line signal.

## SPECIFICATIONS

### Electrical

16-bit PC/104 Bus compatible  
 Data modem line speeds: 33600 bps (PCM-33.6M)  
 Fax modem line speeds: Up to 14400 bps  
 Vcc = +5V ±5% @ 200 mA type  
 Ringer Equivalence = 0.6B  
 FCC Certification No. = 6AXUSA-24747DT-E

### Compatibility

Data Modem: V.32bis, V.32, V.22 bis, V.22A/B, V.23, and V.21; Bell 212A and 103, V.34  
 ECC: V.42 LAPM & MNP 2-4 error correction, V.42bis and MNP 5 data compression, MNP 10 data throughput enhancement  
 Fax Modem: V.33, V.17, V.29, V.27 ter, and V.21 channel 2  
 Dialing: Tone (DTMF) and pulse supported

### Mechanical

Dimensions: 3.6" x 3.8" (90mm x 96mm)

### Connectors

Telephone: RJ-11C  
 Jumpers: 0.025" square posts

### Environmental

Operating Temperature: -40°C to +85°C  
 With a Thermal Gradient of less than 1°C per minute

## ORDERING INFORMATION

PCM-33.6M 33600 bps PC/104 Bus Fax/Modem

